AMENDMENT TO THE CLAIMS

The following claim listing replaces all prior listings and versions of the claims:

LISTING OF CLAIMS

1. (Previously Presented) A method of producing an optical fiber preform, comprising a deposition step of depositing a glass layer in a silica glass pipe by charging a gas containing at least a glass raw material into the silica glass pipe while the silica glass pipe is heated from the outside by a heat source relatively moving in the longitudinal direction of the silica glass pipe,

wherein in the deposition step, at least one exhaust portion together with another exhaust portion or a buffering gas inlet portion are connected to the silica glass pipe, and at least the amount of the exhaust gas from the exhaust portion or the amount of the buffering gas introduced in the buffering gas inlet portion is feedback-controlled, and at least the other one of the amount of the exhaust gas from the exhaust portion and the amount of the buffering gas introduced in the buffering gas inlet portion is pattern-controlled according to a flow rate pattern corresponding to heating positions on the silica glass pipe, and

wherein in the deposition step, the feedback-control is performed such that the internal pressure of the silica glass pipe is measured and at least one of the amount of the exhaust gas from the exhaust portion and the amount of the buffering gas introduced in the buffering gas inlet portion is controlled so that the measured internal pressure coincides with a targeted value which is set for each heating position.

2-3. (Cancelled)

4. (Currently amended) A method of producing an optical fiber preform according to claim 1,

wherein ~~in the deposition step,~~ the targeted value is calculated in a manner that a dimension of the silica glass pipe is measured near each heating position and a value of the internal pressure of the silica glass pipe to make the measured dimension to become a predetermined targeted pipe dimension is calculated as the targeted value ~~and the internal pressure of the silica glass pipe is controlled so as to coincide with the calculated value~~.

5. (Currently amended) A method of producing an optical fiber preform according to claim [[1]] 4,

wherein in the deposition step, the dimension of the silica glass pipe is at least one of the outer diameter, the inner diameter, and the wall thickness of the silica glass pipe.

6. (Previously Presented) A method of producing an optical fiber preform according to claim 1,

wherein in the deposition step, the deposition rate of the glass layer is 0.5 g/min or more.

7. (Previously presented) A method of producing an optical fiber preform according to claim 1,

wherein in the deposition step, the ratio of the maximum to the minimum in a control range of the internal pressure of the silica glass pipe is 2 times or more.

8. (Previously Presented) A method of producing an optical fiber preform according to claim 1,

wherein in the deposition step, a fluctuation of the outer diameter in the longitudinal direction of the silica glass pipe after deposition of the glass layer is ±1 mm or less.

9. (Previously Presented) A method of producing an optical fiber preform according to claim 1,

wherein in the deposition step, a rate of change in the internal pressure of the silica glass pipe is -50 Pa to +50 Pa per second.

10. (Previously Presented) A method of producing an optical fiber preform according to claim 1,

wherein in the deposition step, the duration time of the internal pressure of the silica glass pipe at +20 Pa or less is less than 2 seconds.

11-14. (Cancelled)

15. (New) A method of producing an optical fiber preform according to claim 1, wherein said at least the other one of the amount of the exhaust gas from the exhaust portion and the amount of the buffering gas introduced in the buffering gas inlet portion is pattern-controlled by controlling a control unit disposed on a gas line for the corresponding one of the exhaust gas and the buffering gas.

16. (New) A method of producing an optical fiber preform, comprising a deposition step of depositing a glass layer in a silica glass pipe by charging a gas containing at least a glass raw material into the silica glass pipe while the silica glass pipe is heated from the outside by a heat source relatively moving in the longitudinal direction of the silica glass pipe,

wherein in the deposition step, at least one exhaust portion together with another exhaust portion or a buffering gas inlet portion are connected to the silica glass pipe, and at least the amount of the exhaust gas from the exhaust portion or the amount of the buffering gas introduced in the buffering gas inlet portion is feedback-controlled, and at least the other one of the amount of the exhaust gas from the exhaust portion and the amount of the buffering gas introduced in the buffering gas inlet portion is pattern-controlled according to a flow rate pattern corresponding to heating positions on the silica glass pipe, the pattern-control being performed by utilizing pre-collected data and a calculation pattern for calculating, based on the pre-collected data, an amount of a gas for securing appropriate internal pressure of the silica glass pipe for each heating position, and

wherein in the deposition step, the feedback-control is performed such that the internal pressure of the silica glass pipe is measured and at least one of the amount of the exhaust gas from the exhaust portion and the amount of the buffering gas introduced in the buffering gas inlet portion is controlled so that the measured internal pressure coincides with a targeted value which is set for each heating position.